

## Methods to Re-center the “Other:” When Discarding Outliers Means Discarding Already Marginalized Stories

Kate M. Curley, *Eastern Michigan University*

### Abstract

In this conceptual essay, I argue that the way educational research normatively addresses outliers is dismissive to queer narratives. Queering the approaches to “deal with outliers” can disrupt the further marginalization inflicted by researchers on already marginalized voices. In this paper, I provide guidance to queer the method of outlier management through outlining alternative methodological approaches to center queer and trans lived experiences. Applying queer theory and trans ways of knowing, I will illustrate general examples of how to carve new ways of amplifying queer narratives in quantitative inquiry and interrogate post-positivistic paradigms. In so doing, academics can queer the way knowledge is accumulated and invite people to transcend the categories and standards typically perpetuated in quantitative research.

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## **Methods to Re-center the “Other:” When Discarding Outliers Means Discarding Already Marginalized Stories**

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*In this conceptual essay, I argue that the way educational research normatively addresses outliers is dismissive to queer narratives. Queering the approaches to “deal with outliers” can disrupt the further marginalization inflicted by researchers on already marginalized voices. In this paper, I provide guidance to queer the method of outlier management through outlining alternative methodological approaches to center queer and trans lived experiences. Applying queer theory and trans ways of knowing, I will illustrate general examples of how to carve new ways of amplifying queer narratives in quantitative inquiry and interrogate post-positivistic paradigms. In so doing, academics can queer the way knowledge is accumulated and invite people to transcend the categories and standards typically perpetuated in quantitative research.*

**Keywords:** Queer Theory | Trans | LGBTQ | Methodology | Higher Education

Despite being applied to research methods in higher education relatively recently, the critique of bias in quantitative methods can be traced back to as early as Du Bois’ (1899) work on racism in numbers and statistics. There is a call for more tangible directions on how to critique the false assumptions of objectivity and equanimity (Carter & Hurtado, 2007) in positivist research is imperative to education’s future (Garcia, López, & Vélez, 2018; Hernández, 2015). This paper serves as one more way to tangibly do so today in this context. This gains greater importance when looking at the field; highly cited higher education research publications continue to be steeped in positivistic or post-positivistic metatheories where the status quo, realism, and regulatory science are the prime objectives and corollaries of the research itself (Milam, 1991; Milam, 2001). Quantitative inquiry continues to be the predominate way of knowing in the field and this includes inquiry on LGBTQ+ populations in higher education (Wells, Kolek, Williams, & Saunders, 2015; Williams, Kolek, Saunders, Remaly, & Wells, 2018). This is worrisome when placed alongside critical theoretical critiques of quantitative inquiry. Research—particularly quantitative inquiry—has been historically used as a tool to reify white supremacy and compulsory heterogenderism and heterosexuality (Gillborn, Warmington, & Demack, 2018; Nicolazzo, 2017; Serano, 2016; Stryker, 2017; Zuberi, 2001). If this is the case, the way we consume and produce knowledge about LGBTQ+ communities must be interrogated. I argue that if we are to transform the academy to be more inclusive of LGBTQ+ people then quantitative inquiries that interrogate what we “know” and how we construct knowledge on LGBTQ+ people must be done.

In quantitative analysis, reflexively analyzing one’s subjectivity means “question[ing] the models, measures, and analytic processes and outcomes on a large scale to reveal inequities” (Stage, 2007, p. 10). This is connected to the theoretical lineage of what Adams and Jones (2011) describe as using *the queer* and *the reflexive* as an approach to research: “*the queer*, the telling of a story that critiques (harmful) expectations and brings attention to and calling into question norms” and “*the reflexive*, the understanding, to the best of our ability, how we frame ourselves and others.” In a tangible way, this also means challenging the ways in which we design, analyze, and develop conclusions in quantitative research. Using Trans QuantCrit, a framework developed and outlined by Curley (2019a), I propose outlier management methods that center LGBTQ+ narratives that are often ignored or collapsed into one because of small sample sizes. Rather than framing trans/GE<sup>1</sup> people as outlier which is often the case in studies due to small sample sizes, framing outliers as central in quantitative studies challenges the harmful expectations and norms of quantitative research. Despite many researchers proving how different the lived experiences of lesbian, gay, bisexual, trans, queer, nonbinary, and each different label categorization of people are, researchers continue to ignore LGBTQ+ data or combine the L, G, B, T, Q, and + all into one singular category (Fassinger & Arseneau, 2007; Stone, 2009). Furthermore, despite surveys increasingly including gender and sexual orientation measures, the inclusion of these measures in the published analyses are disproportionately low (Garvey, 2014). Drawing from the seminal work of Pérez Huber, Vélez, and Solórzano’s (2018) arguing for the importance of providing counterstories to explain the value of a degree for Latinx people, I argue that similar explorations of counterstories in research can queer the academy and direct research towards collective liberation of queer and trans/gender expansive (GE) people.<sup>2</sup>

While post-positivism and positivism dominate the structures and narratives present in educational research, critiques of these systems of power must begin to emerge if the field is to dismantle the larger oppressive components of research and practice. One such assumption is the “methods of best practice” to “deal with outliers.” This inquiry serves to critique these narratives so we can learn from and make the invisible, visible (López, Erwin, Binder, & Chavez, 2017). In this paper I ask two questions: (1) How can outliers still inform our research and practice, and (2) How may investigating outliers through queer lens dismantle post-positivistic power structures and help invite future critiques in the academy?

### **Positionality**

As a trans/GE and queer identified person, I am often an outlier in research—particularly when I talk about how important religion and spirituality is in my life and that particular intersection of identity. At the same time, however, I am also intimately aware of how extreme outlier experiences often constitute and define my perception of campus climate. When I develop a summary of my campus experiences, the first stories are those singularly painful times when I was forced outed by a faculty member and my grade suffered or the time when I was beaten up on the ground of a parking lot for being a

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<sup>1</sup> Trans/GE is limited in their ability to capture this community. Truly, trans/GE wider communities are often even predicated in challenging the very boundaries we sometimes seem to place on them. This term, therefore, is an imperfect placeholder to indicate a much more fluid idea.

<sup>2</sup> Like trans/GE, queer is also a limited term and a more fluid idea than is implied (see first footnote).

“faggot.” These are the pivotal moments from which I construct meaning and develop a sense of personal psychological campus climate. If outliers do not matter, then I do not feel like my safety or sense of wellbeing matters. If outliers are erased, we can contribute to trans/GE and queer erasure inadvertently or explicitly in our complacency. This subjective positionality reflexively informs my scholarly exploration.

### **Theoretical Underpinnings**

Critical quantitative inquiry—sometimes described as simply those approaches that challenge positivist and post-positivist paradigms—will provide the theoretical grounding for this inquiry. Critical theory states that all interactions between people and systems are influenced by power differentials that are both earned and unearned (Brookfield, 2005). The purpose of this paper comes from the genealogical roots of critical race theory and its influence on queer and trans theories across disciplines. While critical trans theory is still forming, cisnormativity and its associated systems of power and privilege across institutions and individuals are seen to impact people’s psychological experiences and understandings (Stryker & Aizura, 2013; Stryker & Whittle, 2006). Similarly, queer theory more broadly, challenges the categorical definition of what is “rigorous” and “normal” and argues that rather than integrating LGBTQ+ voices and experiences into the status quo, queering spaces are strongest when they seek alternative ways of knowing and being (Warner, 2000). In other words, queering the academy inherently questions the standards we often take as given within the field. Applying these polyvocal critiques to quantitative research methodology can center the importance of identity and address outliers in a way that seeks to dismantle power structures and promote greater inclusion.

This orientation comes from Curley’s (2019a) developed methodology called Trans QuantCrit that blends together Spade’s (2015) Critical Trans Politics and Gillborn, Warmington, and Demack’s (Gillborn, Warmington, & Demack, 2018) application of critical race theory on quantitative data. Curley (2019a) argues that rather than seeing trans and queer existence as a problem to be solved as it is sometimes framed in positivistic problem statements, LGBTQ+ experiences can inform every step of the methodological process. Rather judging everything based on p-values which is perceived as the unquestioned status quo of statistical goodness of fit, therefore, the tandem metric in Trans QuantCrit is the collective liberation of trans and queer people in quantitative decision-making (Curley, 2019a). Rather than grouping people to increase statistical significance, Trans QuantCrit would categorize people based on how they relate to the trans/GE experience. For example, if Christian religions, non-Christian religions, and non-religious or non-spiritual identities hold vastly different amounts of power and privilege in the U.S. as Small (2013) research suggests, these categories rather than “majority,” “minority,” and “other” will tell us more about how systemic power and privilege around gender intersects with religion and spirituality. The result is using categories that tell us something about intersecting systems of power and privilege over sometimes arbitrary societally defined categories. Alongside some of this work is also looking at what can be called outliers. For example, there is not much work on Jain (or those who practice Jainism, an ancient Indian religion still practiced today) trans/GE people now, but just because it is a small sample size in a quantitative study does not mean we should just automatically collapse them with the “other religions” category.

Each religious or spiritual identity comprises a unique experience as does each gender identity and expression. Disaggregating and looking at this data can have powerful consequences and inform future research. By adding the goal of dismantling of cisnormativity and compulsory heterosexuality to validity standards such as Cronbach’s alpha, outliers can have critical importance to amplifying counternarratives.

### **An Alternative Methodology**

While not widely applied in education studies currently, some models of alternative approaches to address outliers are present in organizational and management science literature. First used to explore what exceptional business cases (both uncharacteristically successful and unsuccessful) can tell us about effective management, similar logic can also be used to lift narratives that fall to the wayside when we employ the law of large numbers in quantitative research. I argue that challenging these taken-for-granted methods of outlier management has the potential to queer, trans, and otherwise push the boundaries of academic research.

Using Aguinis, Gottfredsen, and Joo’s (2013) work as a guide, I will frame their suggestions through a Trans QuantCrit lens in terms of its usefulness in an educational context to queer the academy. The methods will be described below by type of outlier and should be evaluated in the order as described by the decision-making tree in *Figure 1*. Outliers can be determined by standardizing each variable and removing, altering, or separating any cases that fall outside the absolute value of approximately three standard deviations away from the mean (Aguinis, Gottfredson, & Joo, 2013). Aguinis and colleagues (2013) distinguish outliers to be in three different categories: (1) true error outliers or inaccuracies, (2) interesting outliers that stand apart but still tell a story, and (3) influential outliers in the model itself that significantly change the model if removed but are not inaccurate.

#### **Inaccuracies**

The first outlier type requires thorough understanding of marginalized population experiences to “clean” data without sterilizing voices. Particularly in studying LGBTQ+ identity, not all trans/GE and queer categorical descriptions have theoretical underpinnings to their truth value. In my time analyzing open-ended gender responses and open-access online trans/GE identity spaces, I continuously reflect on how I will never know nor should ever be the gatekeeper to validate another’s gender identity. Rather than defining one’s validity of identity by journal articles, I have learned instead to do my own internet and communal research to establish truth value of identities and to determine what is a “true error.” Nuchacho under the open field of describing one’s gender identity, for example, may look like a “mischievous responder” or a misspelling of “muchacho.” However, in pop culture, “nuchacho” is the gender of all rock aliens from a genderless planet on the television show, *Futurama*, and may actually be their current gender identity that resonates with them (Horsted & Muzquiz, 2010). This engagement of this knowledge and what Adams and Jones (2011) would call *the queer*, I can challenge the harmful exclusion of personal gender identities that appear on normative assumptions to “not fit.” This example illustrates that attention to both theory

and cultural understandings of marginalized populations is often a necessary component of outlier assessment. Without this knowledge, one could inadvertently describe someone's identity as "wrong" further underlining the importance of delving deep into all aspect of your subject matter—from personal experience, stories, cultural references, and academic writing. Trans QuantCrit, therefore, requires the researcher to examine one's understandings of trans/GE and continuously seek to find fluidity in knowledge beyond academic spaces.

This tension between inclusive understandings of identity and screening mischievous responders, however, can result in very different findings. For example, without taking out mischievous responders, significant differences can be drawn in conclusions related to LGBTQ+ students (Robinson & Espelage, 2013). One of the best illustrations of this in educational research can be found in Cimpian's (2017) work creating a taxonomy of classification error sources for research on sexual minorities. Although I will not be addressing survey construction in this inquiry, Cimpian (2017) has several recommendations for minimizing inaccurate responses on LGBTQ+ questions specifically. Once data is captured, the screening for inaccurate outliers regarding LGBTQ+ populations include three of Cimpian's (2017) error sources: (1) "mischievousness: individuals report being members of a different group (usually minority) for fun," (2) "misunderstanding of terminology: respondents are unfamiliar with some terms," and (3) "thresholds for categorization: researcher-chosen criteria" (p. 519). Although each of these can be minimized by thoughtful survey construction, there are also ways to screen for these potential inaccuracies retroactively which is sometimes required if using a secondary data set. The second type is often most easily identified; this would be a student who perhaps selects "other" and writes in "straight" or "I like girls" as a cis male when they had the option of "heterosexual." These can simply be recoded when found into the current operational definitions of the other researcher defined categories.

The other two types of error sources, however, are a bit more complicated. Mischievous LGBTQ+ responders have gained increasing attention in recent years in education and psychological health research. One way to screen for these inaccurate responders is to look at questions that have low frequency answers and to remove or transform students who say they are LGBTQ+, but also choose low frequency answers (less than 5% of respondents) on several of these rare questions (Robinson & Espelage, 2011). This screening process will vary by data set, but this can look like conducting a Mahalanobis distance calculation for only those that are suspected to mischievous responders compared to the entire data set (or the selected similarly identified subset) for items that have low frequency answers. For example, in a case that made national news, one student wrote "His Majesty" under their gender pronouns to actively ridicule a gender inclusive pronoun policy (Bever, 2016). Alongside other trans/GE students, this student's expressed worldview was largely dissonant (blatantly calling the policy absurd) and, thus, would be deemed mischievous. In contrast to the first example, this would be an incorrect entry requiring edits before analysis.

The last type of incorrect answers in Cimpian's (2017) taxonomy that can be addressed after data collection is the issue of scope and categorization. Most often in educational research, questions on gender and sexual orientation are not all-encompassing. For example, a common demographic question on gender identity may be: "What is your gender identity?" with answers: man, woman, or other (or sometimes male,

female, or other). Although researchers cannot always fix what was asked, if academic scholars do not name this limitation in studies, we can risk inaccurately erasing or washing out queer and trans/GE experiences. In this case for example, if one chooses man, this does not necessarily make them any less trans nor if one chooses other and identifies as a trans man, this does not make them any less of a man. However, because of these limiting categories, trans people can—very rightly—identify in the binary gender categories and inadvertently conflate their experiences in the analysis with cis people due to the question limitations. Although there is not a good way to identify these errors exactly, recognizing the limitation helps normalize the call to queer methods and academic analysis. Rather than passively accepting this limitation and deeming it not worthy of being named, I challenge scholars and those who consume research to question these normalized categories. For example, this would mean stating that trans/GE people may have chosen male or female on a form, but this does not mean that they are any less trans/GE if they do so. Raising awareness in this way, we as researchers can start to challenge harmful expectations of what should get reported and what should not.

### **Interesting Outliers**

For interesting outliers that perhaps create a notable subset of individuals, Agunis and colleagues (2013) argue for identifying these outlier groups and applying a case study method approach to analyze these cases as can be seen in Hitt, Harrison, Ireland, & Best (1998). Although founded on a small select group of individuals, studying interesting outliers can still inform future research questions and practice—particularly in underrepresented populations (Mohrman & Lawler, 2012). For example, although some sexual orientations may be rare, studying these groups as a case study may illuminate interesting results for future researchers. Asexuality and those who use queer as an identifier are two recent examples of identity subsets that are earmarked for more thorough study and explanation (Garvey, 2017; Hinderliter, 2009). Indeed, sometimes looking at exceptional research cases can lead to future—particularly qualitative—research questions. These case-study depictions can be presented in a quick bullet point or table pattern format including such statements as: asexual identified people may be more likely to experience social ostracization and less likely to meet with their teachers out of class or queer students are more likely to hold a campus leadership position. The goal here is not to define these categories because “to define what queer is . . . would be a decidedly un-queer thing to do,” but highlight the multimodal experiences present in queer theory driven research (Sullivan, 2003, p. 43).

### **Influential Outliers**

Finally, to address outliers that are particularly influential when doing more involved analyses such as SEM or hierarchical multi-linear modeling, Agunis and colleagues (2013) suggest including both models and reporting their statistical fit to not lose any potential conclusions or data in the analysis. For example, to still acknowledge the importance of the outliers, Goerzen & Beamish (2005) presented findings both with and without outliers in order to ensure transparency and honor the importance of the individual while still giving the more “statistically sound” model for broader analysis and

discussion. In this way, the critical quantitative methodology can be both critical of and in compliance with strict statistical standards.

As another general example, to address outliers that are particularly influential when doing more complex inferential analyses, Aguinis and colleagues (2013) suggest including both models and reporting their statistical fit to not lose any potential conclusions or data in the analysis and maintain the desired “rigour” by some researchers in one’s respective field. For example, to still acknowledge the importance of the outliers, Goerzen & Beamish (2005) presented findings both with and without outliers in order to ensure transparency and honor the importance of the individual while still giving the more “statistically sound” model for broader analysis and discussion. Since the cis and non LGBQ+ sample sizes will almost always outweigh their trans/GE and LGBQ+ identifying peers (at least in current compositions), the quantitative “law of large numbers” will automatically wash out any differences from minoritized groups through analysis if one does not readily critique this assumption. To raise p values and possible worthiness, often the combined analysis is the only one reported in research publication—collapsing trans/GE students with cis women, for example. Although I recommend separate case study analyses in addition to this method, presenting side-by-side model outputs with and without LGBTQ+ people included when Carter and Hurtado’s (2007) single group analysis is not possible can still communicate the important influence of LGBTQ+ people within a larger context.

### **Implications**

The many alternatives to “dealing with outliers” drawn from other disciplines challenge the rigid nature of the paradigmatic assumptions present in positivism and post-positivism. Trans QuantCrit is a research space that seeks to explore what is infinitely possible (Curley, 2019b). If we are going to actively challenge the characterization that queer and trans/GE people are problems to be solved, then we as researchers must not also see outliers as problems to minimize or remove. Indeed, these illustrated methods can actually have transformative implications to queer the study of marginalized populations. In this conceptual paper, I suggest a model for future quantitative researchers—particularly those who use secondary data sets—to concretely critique what are considered normative assumptions that are often taken without question in the field. In so doing, these tangible practices can have powerful implications in empowering underrepresented and marginalized populations with specific attention to trans/GE people.

### **Final Thoughts**

In the establishment of disciplinary rigor in the field where I call my professional home of higher education, statistical assumptions are often favored over the lifting of polyvocal narratives and stories. Although quantitative approaches cannot and will not provide narratives as deep and rich as qualitative methods, outliers can help inform richer questions and areas of study for qualitative and mixed method LGBTQ+ centered inquires. It may be some time, for example, for the field as a group to concentrate on trans/GE and Satanist identified college students, but if quantitative data sets hold

information on this intersection (which they do), I would argue that we have a responsibility to lift this often silenced subsection of people. I may not personally be one to explore this area in the future, but how much more powerful do our assertions become when we value research that lifts polyvocal voices over those with only the “most important” and statistically significant or “rigorous?” Qualitative inquiry will continue to set precedence in finding the “why” of Satanic and trans/GE identities for example, but quantitative inquiry can open this door and potentially help future imaginings around this area of inquiry. I encourage academics to not only draw knowledge from outliers to inform future research projects on marginalized populations and stories, but also to challenge scholars to think differently about their definition of “importance” in quantitative analyses. In so doing, we as researchers can queer our knowledge accumulation and ways of knowing not only about trans/GE people but all those who are pushed to the margins of society and research. While only one component of *Trans QuantCrit* (Curley, 2019a, 2019b), I argue that outliers hold largely untapped potential in quantitative research.

### Author Notes

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Figure 1. Decision-making tree to manage outliers

